

**Method for producing carotenoids or their precursors using
genetically modified organisms of the *Blakeslea* genus,
carotenoids or their precursors produced by said method
and use thereof**

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Abstract

The invention relates to a method for producing carotenoids or their precursors using genetically modified organisms of the *Blakeslea* genus. Said method comprises the following

10 steps (i) transformation of at least one of the cells, (ii) optional homokaryotic conversion of the cells obtained in step (i) to produce cells, in which one or more genetic characteristics of the nuclei are all modified in an identical manner and said modification manifests itself in

15 the cells, (iii) selection and reproduction of the genetically modified cell or cells, (iv) cultivation of the genetically modified cells, (v) preparation of the carotenoids produced by the genetically modified cells or the carotenoid precursor produced by said genetically

20 modified cells. The invention also relates to carotenoids or their precursors produced according to said method and to the use thereof.